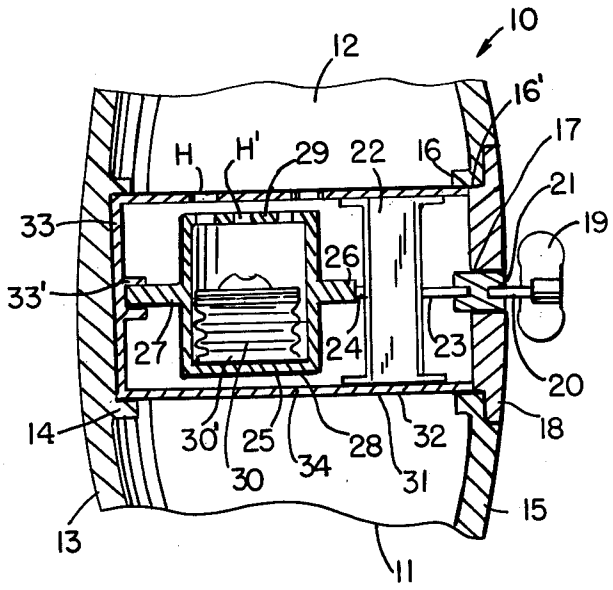
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NOISEMAKING TOYS

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INVENTOR.

Jerome H. Lemelson

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NOISEMAKING TOYS

Jerome H. Lemelson, Staten Island, N.Y.

Original application Jan. 14, 1954, Ser No. 406,557, now Patent No. 2,818,678, dated Jan. 7, 1958. Divided and this application Dec. 12, 1957, Ser. No. 706,227
2 Claims. (Cl. 46—187)

This invention relates to noisemaking toys and devices applicable to toys and is a division of application Serial Number 406,557, filed on January 14, 1954, now issued Patent Number 2,818,678 entitled Crying Doll.

It is known in the art to employ a collapsible, gravity activated bellows mechanism for producing a noisemaking effect in a toy. Devices of this type have been employed to provide a noise simulating that of a baby crying. The bellows is provided within a housing which is placed within a doll or the like and when the attitude of the body of the doll is changed from, for example, a horizontal to a vertical position, the bellows is either caused to expand or collapse by means of a weight secured as a closure to the free end of the bellows. Movement of air through an opening in the bellows and through a reed type of noisemaking device provided in said opening, creates a sound which simulates that of a crying baby. A shortcoming of such a device is its ability to provide a singular crying effect which lasts but a few seconds at the most. The child must shift the attitude of the doll to another position and return it to the position where the bellows again collapses to create the same short duration noise again.

Accordingly, it is a primary object of this invention to provide a new and improved noisemaking device in toys which will operate over a prolonged period of time.

Another object is to provide a noisemaking device for use in dolls to produce a simulated crying sound which is more prolonged and more realistic than the conventional doll crier.

Another object is to provide an improved toy noisemaking device which is simple in structure and easy to manufacture.

Another object is to provide an improved mechanical noisemaking device for toys and the like which is easily mounted within a toy and may be removed therefrom without difficulty for replacement or repair.

The invention also consists of certain new and original features of construction in a combination of parts hereafter set forth as claimed.

The nature of the invention, as to its objects and advantages, the mode of its operation and the manner of its organization, may be better understood by referring to the following description taken in connection with the accompanying drawing, which is a fragmentary view taken in cross section of a doll body and the noise producing mechanism of the current invention mounted therein.

The single drawing illustrates part of a toy **10** in the shape of a doll having a noise producing device **20** secured within the hollow body **11** of said doll. The cross sectioned view of part of the doll torso and noise device illustrates details of both the mechanism within said device and structural details of the doll body facilitating its mounting. The noisemaking cartridge **31** consists of an elongated housing **32** having a cylindrical side wall **34** and an end wall **33**. The closed end of the housing containing the end wall **33** is retained within the hollow interior **12** of the toy or doll against the front wall **13** of the doll body by a circular ridge or protrusion **14** which is preferably molded integral with said front wall and is shaped to receive the end of **31** and prevent lateral displacement of said housing. The other end of the housing **32** is retained in a circular formation **16** protruding inward from the rear wall **15** of the doll which formation defines an opening **16'** inward thereof to the interior of the

doll body. A plug or cover plate **18** is secured across said opening in said doll body. The exterior surface of the plate **18** conforms to the general shape of the body **11**.

Rotationally supported within the housing **32** is a sub-housing **25** containing a bellows noisemaking device **30**. The bellows **30'** of device **30** is weighted at one end and easily collapses and expands when the attitude of the device is changed relative to the horizontal. The other end of the bellows **30'** is secured to one end wall **28** of the sub-housing **25**. The other end wall **29** of the sub-housing is provided with openings H' therein for the escape of noise which further escapes through openings H in wall **32** of housing **31** and is audible to the exterior of the toy through openings in the body **11** not shown.

Protruding radially from the side wall of the sub-housing **25** and in alignment with each other are a pair of shaft elements **26** and **27**, which are preferably integrally molded with said side wall. Shaft protrusion **27** is shown bearingly supported by a cylindrical formation **33'** protruding inward from the end wall **33** and preferably integrally formed therewith. The other protrusion **26** is secured to a shaft or drive element **24** extending from a motor **22** secured within the housing **31**. The motor **22** is illustrated as a wind-up motor having an input shaft **23** supported for rotation by the motor housing, and secured at its end to a coupling **21** which extends through an opening **17** in end plate **18**. The other end of **21** is provided with an opening for receiving and retaining the end of a shaft **20** of a winding key **19** which projects from the rear of the doll body **11** and is easily accessible for winding motor **22**.

The operation of motor **22** is effective in rotating output shaft **24** which rotates sub-housing **25** which causes the bellows therein to expand during 180 degrees of rotation and to collapse during the remainder of each rotation thereby creating a noise which repeats during each complete rotation of said bellows. The reed and bellows mechanism **30** may be designed to simulate various noises found in nature including that of a baby crying which will continue in a realistic manner as long as the motor **22** continues to operate. The motor **22** may be of any suitable type which will effect the desired rotation of the sub-housing **25**.

The key **19** may be removable from the coupling plug **21** so as not to protrude from the doll body during the operation of the toy.

Numerous other modifications of the present invention will be appreciated by those skilled in the art and accordingly the appended claims should be construed broadly as is consistent with the appended claims and, in certain instances, some features of the invention will be used without a corresponding use of other features.

I claim:

1. A noise producing cartridge for producing an intermittent noise repeatedly therein when actuated comprising in combination a first housing, a spring windable motor secured therein, a first shaft extending from said motor coupled to the motor spring for rotation with the unwinding of said motor spring, means supporting said first shaft for rotation, a second shaft extending from said motor, a second housing disposed within said first housing containing a gravity actuated air operated noisemaker, means securing said second housing to said second shaft to rotate therewith in said first housing, said shaft secured to said second housing at essentially the centroid of its volume and perpendicular to the longitudinal axis of the housing, winding means operatively connected to said first shaft and passing through the end wall of said first housing.

2. A noisemaking cartridge comprising in combination a first housing having a cylindrical side wall, end walls

at each end of said first housing, a noisemaking assembly rotatably secured within said housing, said assembly comprising a cylindrical sub-housing, a gravity actuated, air operated noisemaker secured within said sub-housing which is operative to create a noise when rotated, said noise being audible from the exterior of said first housing, a pair of aligned shaft elements the axis of which is substantially the axis of the cylindrical housing, said sub-housing being rotationally supported for rotation about an axis extending radially therethrough at substantially the center of said sub-housing by said aligned shaft elements, a motor secured within said first housing, one of said shaft elements being rotationally supported by an end-wall of said first housing, the other shaft element being operatively connected to the output shaft of said motor and to the sub-housing and rotatable by the motor to rotate said sub-housing in a manner to actuate said noisemaker and create an intermittent noise, said motor being controllable from the exterior of said first housing.

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